

Patent claims

1. A method for mounting a roof module (10) on a roof frame structure (12), having a roof opening (20), of a vehicle body (14), wherein the roof module (10), which contains a roof module panel (16) and a roof liner (18), is brought from outside into a defined inserted position relative to the roof opening (20), thereby forming an adhesive connection with the roof frame structure (12), and wherein the roof liner (18) in the inserted position has at least one roof liner portion (24) protruding over a roof frame member (22) of the roof frame structure (12), characterized in that the roof module (10) is at least temporarily positioned relative to the roof opening (20) by means of a movement component in the longitudinal direction (X) of the vehicle body in such a way that the roof module (10) is initially brought into a threaded-in position at a distance from the roof frame structure (12), in which position the roof liner portion (24) is positioned opposite an inner region (28) of the roof frame member (22), and in that the roof module (10) is subsequently brought into the inserted position by means of a feeding movement directed substantially perpendicularly to the bonding face (26), this movement being favorable for the adhesive connection.

2. The method as claimed in claim 1, characterized in that the adhesive connection between the roof module panel (16) and the vehicle body (14) is produced by means of a feeding movement which, with respect to the associated bonding faces (26), is substantially free of relative movement in the longitudinal and transverse directions (X, Y).

3. The method as claimed in claim 1 or 2, characterized in that the feeding movement is a displacement movement substantially in the perpendicular direction (Z) to the vehicle body (14).

4. The method as claimed in one of the preceding claims, characterized in that the roof module (10) is positioned into the threaded-in position by means of a combined displacement and pivoting movement (38, 40, 42, 44).

5. The method as claimed in one of the preceding claims, characterized in that the roof module (10) is pressed in a controlled manner onto the vehicle body (14) during the production of the adhesive connection in the inserted position.

6. The method as claimed in claim 5, characterized in that the operations of threading in, feeding and pressing on the roof module (10) are carried out in automated fashion by means of a suitable handling device.

7. The method as claimed in one of the preceding claims, characterized in that, after the roof module (10) has assumed the inserted position, the roof liner portion (24) is fastened in the inner region (28) to a roof frame crossmember (30), in particular by adhesive bonding or by fixing in a nondestructively releasable manner by means of a touch-and-close fastener strip.

8. The method as claimed in claim 7, characterized in that the fastening of the roof liner portion (24) is carried out in the course of the operation of inserting the roof module (10) in the roof opening (20).

9. The method as claimed in one of the preceding claims, characterized in that the roof module (10) has a front and/or a rear roof module panel portion (32) with a connecting edge (34) for a corresponding vehicle window, the roof module panel portion (32) in the inserted position resting on the outside of the associated roof frame crossmember (30).

10. The method as claimed in one of the preceding claims, characterized in that the bonding face (26) of the roof module (10) and/or of the vehicle body (14) is coated with an adhesive layer (36).